



## New Developments' Construction Standards Require Wildfire Mitigation

### Full Mitigation Best Practice Story

#### *San Diego County, California*

**Rancho Santa Fe, CA** – More than 2,460 multi-million-dollar houses, built to the highest construction standards possible including expansive defensible space around and within the home development areas, survived extremely well when the Witch Fire stormed through the area in October 2007.



The developments – the Crosby, Cielo, 4SRanch, the Bridges, and Bel Etage (also known as Santa Fe Valley) – were surrounded by the fire, driven by high winds, as it swept through the northern San Diego County area.

The blaze burned up to plants on defensible spaces and stopped. Embers blown into areas of the estates bounced off tile roofs with boxed-in eaves, stucco walls, patios, and other areas, and died out without leaving more than incidental damage, basically scorched plants. A half-dozen charred embers the size of footballs were found in the Cielo estates, and “nothing was burned,” said Ken Crosby, one of the realtors for the estate areas. As the Witch fire rolled through the area, 55 homes were destroyed elsewhere in Rancho Santa Fe.

“I can’t believe we survived,” said Lauren Weaver, a realtor who lives in the Crosby and owns a second house on the perimeter of the development. Both homes were untouched. She and her family evacuated as the Witch Fire approached, just in case. That decision was made because the “shelter in place” aspects of the developments had not been tested.

The five Rancho Santa Fe developments, completed just three-plus years before the Witch Fire came, basically set construction standards on the “shelter in place” concept developed in Australia. The standards for construction and mitigation, including mandated interior fire sprinklers, extensive defensible space, and use of fire-resistant vegetation, are the “toughest in the country,” according to Cliff Hunter, fire marshal for the Rancho Santa Fe Fire Protection District, which provides fire protection for the five developments.

The strict development standards make homes in the shelter-in-place communities safer places to stay if residents are not able to evacuate from the areas, according to fire officials. They advise people to evacuate rather than stay to fight fires or simply shelter in place because their homes are considered to be safe refuge.

USA Today said the “wealthy developments” emerged as “one of the bright spots in the firestorm of destruction that whipped Southern California last week. [The developments] may pose a lesson for the future for those who choose to make their homes in areas where wildfires are likely.”

The estate homes were constructed with materials and techniques intended to make the structures as resistant as possible to effects of wildland fires. The areas were subject to strict limitations on landscaping so that combustible vegetation – fuel for fire – is kept well away from homes. Only slow-to-ignite plants may be planted nearer to houses. The standards are strictly maintained by the Rancho Santa Fe Fire Protection District’s fire marshal.

Cliff Hunter, fire marshal for the Rancho Santa Fe fire department, said the developments are governed by the toughest residential fire codes in the country. Erwin Willis, the department’s retired fire chief, is credited as being the driving force behind setting the high standards for fire resistive measures for the five communities.

Hunter is the person who walks home sites with homeowners, specifying which plants may be placed on yards and how far plants must be from houses.

Mitigation was “definitely a factor” in the decision by Steve and Sheri Sargenti to buy a home in The Crosby development in Rancho Santa Fe.

The Sargenti home is on the eastern edge of The Crosby. There is a wide swath of defensible space adjoining the backyard. Smoke and ash came into their house through the drier vent, and there was smoke in the garage, Sargenti said. The interior of the house was chemically “sponged” to clean it, Sargenti said, adding “everybody [in the area] got smoke.”

The couple said they attended a program staged by the Rancho Santa Fe Fire Department to explain how the shelter-in-place program works. Steve and Sheri Sargenti came away with a full understanding of what the concept of “shelter in place” means, and what they should do. It was there they learned that the concept had not been tested in the United States and that they should “get out early” if they chose to evacuate, and what to do if they stayed.

“When we were told the ‘shelter-in-place’ concept had never been tested, we got out,” said Sargenti.

The fire was coming their way that Monday, so they left with their two children, three dogs, and a cat. When the reverse 911 call came in at 9 a.m. that Monday morning, “we were long gone,” Sargenti said.

“We said, if we’re going to get out, we’re going to leave early,” said Sheri Sargenti. The couple had been told that, if they couldn’t get out, they should stay home, that it would be the safest place to be.

Steve Sargenti said he “knew [the] house was intact,” and when the family returned, they found their house was untouched, other than smoke inside. Embers that landed on the concrete tile roof had burned out, and the courtyard in front of the house “was a repository” for spent embers, he said. Two plants in the backyard were damaged.

“It all worked,” Sargenti said. “We’re glad that [the developer and fire department] had a very restrictive list of plants that are allowed [to be planted around houses in the developments]. It was definitely worth it.” Limits and restrictions, placed on both construction of their more than 3,600-square-foot two-story home and flora around it, “are an asset,” Sargenti said.

There is no exterior wood on the exterior of their house. There is no wooden deck in the back yard. There is a lot of slate and rock, grass and fire-resistant plants. This all contributed to saving the house from the fire.

Compared to the worth of their home, which is approximately \$1 million, the cost of clearing the house and garage of smoke and spent embers is considerably lower.

That benefit extends multifold to all the houses in the five developments – some of the costliest homes in the nation, according to USA Today. Homes in the Bridges, for example, ranged in cost in 2007 from \$2.5 million to \$8 million or more, according to Ken Ayers, development manager for the Bridges. Homes in other developments can range to as much as \$14 million each, real estate representatives for the developments said.

#### Activity/Project Location

Geographical Area: **Single County in a State**

FEMA Region: **Region IX**

State: **California**

County: **San Diego County**

City/Community: **Rancho Santa Fe**

#### Key Activity/Project Information

Sector: **Private**

Hazard Type: **Fire; Wildfire**

Activity/Project Type: **Building Codes; Vegetation Management**

Activity/Project Start Date: **10/2007**

Activity/Project End Date: **Ongoing**

Funding Source: **Private funds**

### Activity/Project Economic Analysis

Cost: **Amount Not Available**

### Activity/Project Disaster Information

Mitigation Resulted From Federal  
Disaster? **No**

Value Tested By Disaster? **Yes**

Tested By Federal Disaster #: **1731 , 10/24/2007**

Repetitive Loss Property? **No**

### Reference URLs

Reference URL 1: <http://www.usfa.dhs.gov/>

Reference URL 2: <http://www.fema.gov/hazard/wildfire/index.shtm>

### Main Points

- More than 2,460 multi-million-dollar houses, built to the highest construction standards possible including expansive defensible space around and within the home development areas, survived extremely well when the Witch Fire stormed through the area in October 2007.
- The blaze burned up to plants on defensible spaces and stopped.
- Embers blown into areas of the estates bounced off tile roofs with boxed-in eaves, stucco walls, patios, and other areas, and died out without leaving more than incidental damage, basically scorched plants.
- The five Rancho Santa Fe developments, completed just three-plus years before the Witch Fire came, basically set construction standards on the "shelter in place" concept developed in Australia.
- The "shelter in place" homes had not been tested in the US, so most residents chose to evacuate rather than take their chances.
- In the end, the mitigation efforts were successful and the houses remained virtually untouched.



There are no wood surfaces on exteriors of homes in the housing areas.



Steve and Sheri Sargenti look at defensible space behind their home.



The Witch Fire burned up to irrigated defensible space behind homes in The Crosby and stopped, leaving no damage to houses.